

TSMC-01-1582B

March 19, 2004

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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Subject:

Serial No. 10/781,176 02/18/04

Chang-Ming Dai et al.

FULL SIZED SCATTERING BAR ALT-PSM
TECHNIQUE FOR IC MANUFACTURING IN
SUB-RESOLUTION ERA

INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation
In An Application.

The following Patents and/or Publications are submitted to
comply with the duty of disclosure under CFR 1.97-1.99 and
37 CFR 1.56.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being
deposited with the United States Postal Service as first class
mail in an envelope addressed to: Commissioner for Patents,
P.O. Box 1450, Alexandria, VA 22313-1450, on March 25, 2004.

Stephen B. Ackerman, Reg.# 37761

Signature/Date

Stephen B. Ackerman 3/25/04

U.S. Patent 6,210,841 to Lin et al., "Approach to Increase the Resolution of Dense Line/Space Patterns for 0.18 Micron and Below Design Rules Using Attenuating Phase Shifting Masks," discusses forming an attenuated mask by adding an attenuator material such as MoSiOxNy to portions of the substrate.

The following two U.S. Patents reveal double exposure alt-phase shift mask (PSM) methods:


- 1) U.S. Patent 6,228,539 to Wang et al., "Phase Shifting Circuit Manufacture Method and Apparatus."
- 2) U.S. Patent 5,573,890 to Spence, "Method of Optical Lithography Using Phase Shift Masking."

U.S. Patent 5,858,580 to Wang et al., "Phase Shifting Circuit Manufacture Method and Apparatus," discloses a phase shift mask (PSM) process.

U.S. Patent 5,994,002 to Matsuoka, "Photo Mask and Pattern Forming Method," describes a alt-PSM technique.

U.S. Patent 5,882,827 to Nakao, "Phase Shift Mask, Method of Manufacturing Phase Shift Mask and Method of Forming a Pattern Using Phase Shift Mask," describes a phase shift mask (PSM) method.

Sincerely,



Stephen B. Ackerman, Reg.# 37761

INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

MAR 29 2004

(Use several sheets if necessary)

Docket Number (Optional)

TSMC-01-1582B

Application Number

10/781,176

Applicant

Chang-Ming Dai et al.

Filing Date

02/18/04

Drawn Art Unit

U. S. PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	TITLE	CLASS	SUBCLASS	NUM. DATE & APPROXIMATE
6210841	4/3/01	Lin et al.	430	5	9/7/99
6228539	5/8/01	Wang et al.	430	5	1/12/99
5573890	11/12/96	Spence	430	311	7/18/94
5858580	1/12/99	Wang et al.	430	5	9/17/97
5994002	11/30/99	Matsuoka	430	5	9/4/97
5882827	3/16/99	Nakao	430	5	1/27/97

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES NO

OTHER DOCUMENTS (Including Author, Title, Date, Portmox Pages, Etc.)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.